Alexandria University
Faculty of Engineering

Computer Organization
Fall 2023
Assigned: 16/12/2023
Due: 23/12/2023

Lab 3

Question 1

Write a program to arrange a sequence of eight numbers in descending order. You can store the numbers in memory before the program is executed by means of the DB assembler directive. For example:

List: DB 1,2,5,4,8,5,4,2

There are many ways of performing this sorting operation. One of the simplest is to search the list for the largest number and put it at the top of the list, then do the same to the remaining numbers, and so on

Question 2

Write a program that takes an input of two bytes, the first byte is a number and the second byte is the number of repetitions needed to be applied to the number stored in the first byte. Store the new sequence in the position 0x20 in memory. Use the string operations REP and STOS

Example:

STR: DB 32
REPEAT: DB 5

Then after running the program, 0x20 must show 32 32 32 32 32 00 00 00 etc.